

Claim 97 is drawn to an isolated functional trichodiene synthase of SEQ ID NO. 2 wherein one or more amino acids are deleted from the amino and/or carboxyl terminus of SEQ ID NO. 2. This is a genus claim in terms of any functional trichodiene synthase which has any amino- and/or carboxy-terminal deletions. ... The specification mentions only the full length trichodiene synthase from *Fusarium venenatum*. This disclosure is not deemed to be descriptive of the complete structure of a representative number of species encompassed by the claims as one of skill in the art cannot envision all the fragments having trichodiene synthase activity based on the teachings in the specification. The specification does not teach regions or domains of the protein are essential for trichodiene synthase activity. There is no disclosure of what amino acids are in the active site, the binding pocket or the hydrophobic core of the protein. There is no structure/function relationship taught at all for SEQ ID NO.2. There is no teaching of how many amino acids may be deleted from either or both the N- and C-terminals and retain function. As discussed in MPEP 2163(1)(A), "a biomolecule sequence described only by a functional characteristic, without any known or disclosed correlation between that function and the structure of the sequence, normally is not a sufficient identifying characteristic for written description purposes, even when accompanied by a method of obtaining the claimed sequence". Therefore, the specification does not describe the claimed fragments in such full, clear, concise and exact terms so as to indicate that Applicant has possession of these fragments at the time of filing the present application.

This rejection is respectfully traversed.

Applicants disagree with the Office Action's contention that the claimed isolated functional fragments of SEQ ID NO:2 are described only by a functional characteristic, without any known or disclosed correlation between that function and the structure of the sequence. The "function" is trichodiene synthase activity and the "structure" is SEQ ID NO:2. Applicants are not claiming "a functional fragment of a trichodiene synthase" which is solely described by function with no correlation to a structure. Applicants' structure is SEQ ID NO:2.

The Office Action asserts that there is no teaching of how many amino acids may be deleted from either or both the N- and C-terminals and retain function. A fragment having trichodiene synthase activity is defined on page 22, lines 8-11, of Applicants' specification: "A fragment of SEQ ID NO. 2 is a polypeptide having one or more amino acids deleted from the amino and/or carboxyl terminus of this amino acid sequence. Preferably, a fragment contains at least 290 amino acid residues, more preferably at least 320 amino acid residues, and most preferably at least 350 amino acid residues." The fragments having trichodiene synthase activity, claimed in the instant invention, involve simply removing one or more amino acids from the amino and/or carboxyl terminus of SEQ ID NO:2. One of ordinary skill in the art would recognize that Applicants were in possession of the claimed subject matter, as of the filing date, based on the above-noted description.